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(54) Title: SELECTIVE MONITORING OF TRITIUM-CONTAINING SPECIES IN A GAS

(57) Abstract

There is disclosed a method and apparatus for selectively monitoring tritium containing species in a gas. The apparatus comprises a hygroscopic scintillator element suitable for selective response to tritiated water vapour and other hydrophilic tritiated species in a gas, which scintillator comprises a solid scintillator material having a layer of hygroscopic material thereon. Measuring means are provided to measure any light emitted from the scintillator element, the amount of which emitted light provides a measure of the tritium containing species in the gas. The method comprises (a) providing a hygroscopic scintillator element as identified above for contact with a gas to be tested; (b) measuring the light emitted from said hygroscopic scintillator using measuring means, the amount of said light emitted from said scintillator element providing a measure of the activity of the tritiated water vapour or said hydrophilic tritiated species in the gas.